

CHIBISKOV, N.D. (Ryasan')

Cotton-plaster bandage without lining. Fel'd. i akush. 21 no.10:  
43-44 0 '56. (MLRA 9:12)

(BANDAGES AND BANDAGING)

*CHIBISKOV, N.D.*  
CHIBISKOV, N.D. (Ryazan')

Epithelization of wounds. Fel'd. i skush. 23 no.2:43-44 F '58.  
(WOUNDS) (MIRA 11:3)

CHIBISKOV, N.D.

A screw-type repositor. Ortop.travm.i protez. 20 no.8:59-61 Ag '59.  
(MIRA 12:11)

1. Iz kafedry fakul'tetskoy khirurgii (zav. - prof. I.Ye. Matsuyev)  
Ryazanskogo meditsinskogo instituta (dir. - prof. L.S. Sutulov).  
(FRACTURES, surgery)

CHIBYSKOV, N.D.

Case of Fournier's disease. Khirurgia 37 no.4:128-129 '61.  
(MIRA 14:4)

1. Iz kafedry fakul'tetskoy khirurgii (zav. - prof. I.Ye.  
Matsuyev) Ryazanskogo meditsinskogo instituta imeni I.P.  
Pavlova.

(GANGRENE)

(SCROTUM—DISEASES)

CHIBISKOV, N.D.

Urolithiasis as revealed by data of a Ryazan provincial hospital.  
Urologiia no.4:20-21 '61. (MIRA 14:11)

1. Iz fakul'tetskoy khirurgicheskoy kliniki (zav. - prof.  
I.Ye. Matsuyev) Ryazanskogo meditsinskogo instituta.  
(CALCULI, URINARY)

CHIBISOV, A. K., ULUBEKOV, M. V., KARYAKIN, A. V., and KUTYURIN, V. M.  
(USSR)

"Spectroscopic Study of Chlorophyll and its Dervatives in vitro."

Report presented at the 5th International Biochemistry Congress,  
Moscow, 10-16 Aug 1961

S/079/61/031/001/002/025  
B001/B066

AUTHORS: Chibisov, A. K. and Pentin, Yu. A.

TITLE: Spectroscopic Study of Thiono-thiol Tautomerism. I. Infrared Absorption Spectra of Thiourea, Phenyl Thiourea, Asymmetric and Symmetric Diphenyl Thiourea

PERIODICAL: Zhurnal obshchey khimii, 1961, Vol. 31, No. 1, pp. 11 - 16

TEXT: Some of the data published in Refs. 1 - 7 on thiono-thiol tautomerism, which has so far been given little attention are contradictory, and require, owing to their practical importance, additional studies. The reactivity of thiourea and its three phenyl derivatives with respect to thiono-thiol tautomeric conversion was examined by the spectroscopic method. Two tautomeric forms of the thioureide group may be assumed

— NH — C = S  $\rightleftharpoons$  — N = C — SH. Tautomeric equilibrium usually appears in solutions, but the existence of different forms is also possible in the crystalline state. The molecules of thiono and thiol forms may be assumed not only to react with those of the solvent but also with one another, forming associates via the hydrogen bonds of the types:

Card 1/3

Spectroscopic Study of Thiono-thiol Tautomerism. S/079/61/031/001/002/025  
 I. Infrared Absorption Spectra of Thiourea, B001/B066  
 Phenyl Thiourea, Asymmetric and Symmetric Di-  
 phenyl Thiourea

$\text{>NH} \dots \text{S} < ; \text{>NH} \dots \text{N} < ; -\text{SH} \dots \text{N} < ; -\text{SH} \dots \text{S} < .$

The present paper examines the infrared spectra of thio-, phenyl thio-, and diphenyl thiourea (asymmetric and symmetric) in crystalline state and in solution ( $\text{CCl}_4$ ) by means of an improved single-beam MKC-11 (IKS-11) infrared spectrometer. The crystalline products for spectrum analysis were prepared in three ways: a) crystallization from high-volatility solvent on a salt lamella, b) suspension in vaseline oil, c) sublimation. The infrared absorption spectra of the above initial ureas in crystalline state in the range of  $3500 - 500 \text{ cm}^{-1}$ , and in dilute solution in  $\text{CCl}_4$  in the range of  $3550 - 2800 \text{ cm}^{-1}$  were studied and interpreted. In crystalline state, the molecules of the products studied disclose only the thiono form. A comparison of the infrared spectra of these compounds with the spectra of their solutions in  $\text{CCl}_4$  indicates the existence of strong intermolecular hydrogen bonds in the crystalline state. No bands of the C - N - thiol form or of the C - S stretching vibrations of the phenyl derivatives could be found in the spectra of these compounds (Diagram D). The presence of an

Card 2/3



**Spectroscopic Study of Thiono-thiol Tautomerism. I. Infrared Absorption Spectra of Thiourea, Phenyl Thiourea, Asymmetric and Symmetric Diphenyl Thiourea.**

S/079/61/031/001/002/025  
B001/B066

appreciable quantity of a thiol form of the molecules of thiourea and its phenyl derivatives could not be confirmed in the spectrum region of 1650 - 500  $\text{cm}^{-1}$  (Diagram 1); the thiol form might appear only in a negligible amount. I. I. Levkoyev is thanked for furnishing the initial substances. There are 2 figures and 9 references: 3 Soviet, 1 US, 2 British, 2 German, and 1 Indian.

**ASSOCIATION:** Moskovskiy gosudarstvennyy universitet (Moscow State University)

**SUBMITTED:** October 28, 1959

Card 3/3

CHIBISOV, A.K.; PENTIN, Yu.A.

Spectroscopic investigation of thione-thiol tautomerism. Part 2:  
Ultraviolet and infrared absorption and Raman spectra of solutions  
of thiourea, phenylthiourea, as-diphenylthiourea and sym-  
diphenylthiourea. Zhur. ob. khim. 31 no. 2:359-362 F '61.

(MIRA 14:2)

1. Moskovskiy gosudarstvennyy universitet imeni M.V. Lomonosova.  
(Urea—Spectra) (Tautomerism)

KARYAKIN, A.V.; KUTYURIN, V.M.; CHIBISOV, A.K.

The state of the water in chlorophyll molecule. Dokl. AN SSSR  
140 no.6:1321-1323 0 '61. (MIRA 14:11)

1. Institut geokhimii i analiticheskoy khimii im. V.I.Vernadskogo  
AN SSSR. Predstavleno akademikom A.P.Vinogradovym.  
(Water) (Chlorophyll--Spectra)

5.5456

27.1110

S/020/61/141/003/020/021  
B103/B101

AUTHORS: Kutyrin, V. M., Karyakin, A. V., Chibisov, A. K., and Artamkina, I. Yu.

TITLE: Isotopic exchange of hydrogen atoms in chlorophyll

PERIODICAL: Akademiya nauk SSSR. Doklady, v. 141, no. 3, 1961, 744 - 747

TEXT: Degree and rate of deuterium exchange of chlorophylls a and b with  $D_2O$  were studied (1) on the basis of infrared spectra, (2) on the basis of the exchange between chlorophyll and  $T_2O$ . The authors used chlorophyll preparations (a and b) obtained from small nettle (*Urtica urens*) by methods described earlier (V. M. Kutyrin et al., *Fiziol. rast.*, 8, no. 4 (1961)). Solid pigment films were produced on a fluorite plate by evaporation of ethereal solutions. The spectra of such films were recorded by a UR - 10 split-beam infrared spectrophotometer. The films were exposed to  $D_2O$  or  $H_2O$  vapors in vacuum vessels with fluorite windows (at  $3 - 5 \cdot 10^{-6}$  mm Hg). So far, it has been difficult to study the hydrogen exchange of chlorophylls due to a lack of reliable purity criteria of chlorophyll preparations and

Card 1/4

10/20

S/020/61/141/003/020/021  
B103/B101

Isotopic exchange of hydrogen ...

their hygroscopicity. The authors eliminated these difficulties (V. M. Kutyurin, Fiziol. rast., 7, no. 2, 133 (1960); A. V. Karyakin et al., DAN, 140, no. 6 (1961)). In the spectra of solid films of chlorophylls a and b, a wide, asymmetric, intensive band ( $3600 - 3200 \text{ cm}^{-1}$ ) occurs which belongs to the  $\nu(\text{O-H})$  of water molecules bound to the pigments. The intensity of this band in chlorophyll a was reduced by exposure to  $\text{D}_2\text{O}$  vapor for 5 min. In addition, an absorption band occurred in the region  $2600 - 2400 \text{ cm}^{-1}$ , which characterizes  $\nu(\text{O-D})$  of the exchanged  $\text{D}_2\text{O}$  molecules. This process was continued and intensified by repeated pigment treatment with  $\text{D}_2\text{O}$  vapor at room temperature until, after 15 hr, a complete deuterium exchange of  $\text{H}_2\text{O}$  bound by the pigment was reached. On the basis of these results and repeated treatment in vacuo at  $58 - 60^\circ\text{C}$  and in  $\text{D}_2\text{O}$  and  $\text{H}_2\text{O}$  vapors, the following was concluded: The bonds between adsorbed water ( $\text{H}_2\text{O}$  and  $\text{D}_2\text{O}$ ) and pigments a and b, respectively, are not equally firm. The rates of isotopic exchange of the two types of water also differ. A striking connection exists between the unstable bond of water in chlorophyll a on the one hand, and an intense isotopic exchange in this chlorophyll as com-  
Card 2/4

Isotopic exchange of hydrogen ...

S/020/61/141/003/020/021  
B103/B101

pared to chlorophyll b, on the other hand. In molecules of chlorophyll a, the isotopic exchange of enol (O-H or O-D) is much more difficult than it is in the case of unstably bound water. Interaction of water and pigment probably takes place at the O atoms of the cyclopentane ring. The probability of an isotopic exchange of the C-H bond, which is only a few percents, cannot be checked due to insufficient precision of the spectrum method. Therefore, T<sub>2</sub>O was used for the chlorophyll exchange in acetone, alcohol,

and pyridine in light (50,000 lux), and in the dark. T<sub>2</sub>O allows an estimation of the exchange within 0.1%. The pigment solution and water were degassed in a special permanently air-tight vessel in vacuo ( $p \leq 10^{-2}$  mm Hg) to prevent photooxidation of the pigment. 20% by volume of water containing T<sub>2</sub>O was added to chlorophyll. Desiccated pigment was burned in dry O<sub>2</sub>, the resulting water was completely decomposed with calcium carbide, and the radioactivity of acetylene thus formed was measured with an  $CS - 7(Sb - 7)$  counter. Light was found to stimulate the isotopic exchange but little. Disagreement with results obtained in previous studies (V. M. Kuturyn, Fiziol. rast., 7, no. 2, 133 (1960); Ref. 4, see below) is probably due to the action of humidity and, above all, to the label loss. So far, it

Card 3/4

30730

S/020/61/141/003/020/021  
B103/B101

Isotopic exchange of hydrogen ...

cannot be said whether the residual activity of chlorophyll preparations is due to an exchange of the  $\text{H}-\text{C}_{10}-\text{C}-$  bond or of the firmly bound chlorophyll

b water. There are 3 figures, 1 table, and 4 references: 3 Soviet and 1 non-Soviet. The reference to English-language publication reads as follows:  
Ref. 4: W. Vishniac, I. A. Rose, Nature, 182, No 4642 (1958).

ASSOCIATION: Institut geokhimii i analiticheskoy khimii (Institute of Geo-chemistry and Analytical Chemistry)

PRESENTED: July 28, 1961, by A. P. Vinogradov, Academician

SUBMITTED: July 20, 1961

Card 4/4

KARYAKIN, A.V.; CHIBISOV, A.K.

Spectral study of the state of water in chlorophyll. Biofizika 7  
no.5:561-567 '62. (MIRA 17:8)

1. Institut geokhimii i analiticheskoy khimii imeni V.I.  
Vernadskogo AN SSSR, Moskva.



KARYAKIN, A.V.; CHIBISOV, A.K.

Study of the keto-enol tautomerism of chlorophyll based on  
infrared absorption spectra. Opt. i spektr. 13 no.3:379-382  
S '62. (MIRA 15:9)  
(Keto-enol substances) (Chlorophyll—Spectra)

CHIBISOV, A.K.; KARYAKIN, A.V.

Use of the pulse photolysis method in studying the metastable state  
of pigments. Opt. i spektr. 15 no.5:636-644 N '63. (MIRA 16:12)

KARYAKIN, A.V.; CHIBISOV, A.K.

Studies on water condition in chlorophyll a and b and in pheophytin  
a and b according to infrared absorption spectra. Biofizika 8 no.4,  
441-445 '63. (MIRA 17:10)

1. Institut geokhimii i analiticheskoy khimii imeni Vernadskogo,  
Moskva.

CHIBISOV, A.K.; KARYAKIN, A.V.

Temperature dependence of the deactivation of the metastable  
state of chlorophyll. Dokl. AN SSSR 153 no.5:1132-1135 D '63.  
(MIRA 17:1)

1. Institut geokhimii i analiticheskoy khimii im. V.I.  
Vernadskogo. Predstavleno akademikom A.P. Vinogradovym.

L 1114-66 EWT(m)/EPF(c)/EWP(j)/T/ETC(m) DS/WW/RM

ACCESSION NR: AP5023693 UR/0076/65/039/009/2291/2293

44,55 44,55 541.14 + 547.979.4

AUTHOR: Chibisov, A. K.; Karyakin, A. V.; Zubrilina, M. Ye. 44,55

TITLE: Photooxidation of chlorophyll under pulsed illumination 48  
45  
B

SOURCE: Zhurnal fizicheskoy khimii, v. 39, no. 9, 1965, 2291-2293

TOPIC TAGS: photolysis, chlorophyll, pulsed illumination

ABSTRACT: Reactions of reversible photooxidation of chlorophylls *a*, *a + b*, and *b* in ethanol solution (concentration  $2 \times 10^{-5}$  mol/l) were studied at 20°C by means of pulsed photolysis. Some measurements were made at -40°C. Tetrachlorobenzoquinone ( $5 \times 10^{-5}$  -  $1 \times 10^{-3}$  mol/l) was used as the oxidant. The solutions were exposed to pulsed photoexcitation in the "red" absorption band of the pigments. The complex character of the oscillograms obtained is due to the different stabilities of the intermediate states of components *a* and *b* of the pigment during the photooxidation. The fact that spectral changes during the pulsed photoexcitation of the pigment - tetrachlorobenzoquinone system take place in an oxygen-containing solution shows that a photochemical reaction occurs between the singlet-excited pigment

Card 1/2

L 1144-66

ACCESSION NR: AP5023593

3  
molecules and the tetrachlorobenzoquinone (electron acceptor) molecules. It is postulated that the spectral changes observed in the chlorophylls consist in the difference in the light transmission of unexcited pigment molecules and probably of the cation radical of the pigment. Orig. art. has: 2 figures, 1 formula.

ASSOCIATION: Institut geokhimi i analiticheskoy khimii, Akademiya nauk SSSR  
(Institute of Geochemistry and Analytical Chemistry, Academy of Sciences SSSR)

SUBMITTED: 24Jun64

ENCL: 00

44.55  
SUB CODE: LS,OP

NO REF SOV: 008

OTHER: 004

Card 2/2

L 39435-65 EWG(a)-2/EWG(c)/EWG(j)/EWG(r)/EWG(v)/EWT(1)/FS(v)-3 Pa-5 DD  
 ACCESSION NR: AP0007645 S/0020/65/160/006/1417/1420

AUTHOR: Chibisov, A. K.; Vinogradov, A. P.

TITLE: Electron transfer in reduction reactions photosensitized by chlorophyll

SOURCE: AN SSSR. Doklady, v. 160, no. 6, 1965, 1417-1420

TOPIC TAGS: electron transfer, reduction, photochemical reaction, chlorophyll, electron donor, electron acceptor, method, oscillogram, absorption spectrum shift

ABSTRACT: The demonstration of substrate reduction by chlorophyll photosensitization in literature studies prompted the present investigation of possible means of electron transfer from chlorophyll to an acceptor (substrate). Electron transfer was studied in solutions of chlorophyll b in pyridine at room temperature. Chlorophyll a was also studied, and also in chlorophyll a and chlorophyll b. Ascorbic acid and phenylhydrazine were used as electron donors, and, methyl red, safranin O, and hydroxycarboaniline dyes were used as electron acceptors.

Card 1/3

L-39435-65

ACCESSION NR: AP5007665

photoexcitation of a triple system (donor-sensitizer-acceptor) was conducted in the "red" absorption band of the pigment (PS-10 filters), exciting only pigment molecules. Removal of dissolved oxygen from a system was accomplished by several cycles of freezing, degassing, and refreezing the solution. As will be shown, photoexcitation leads to substantial changes in the properties of a system. Three means of electron transfer are possible depending on the nature of the system. In some cases, substrate reduction by chlorophyll photosensitization can be explained as a triplet transfer of energy from the donor to the acceptor, followed by the latter's reduction on a triplet level. In other cases substrate reduction can be explained by direct phototransfer of the electron from the pigment to the acceptor during triplet relaxation. Cases with the pigment acting as a donor to the acceptor are explained by electron transfer from the chlorophyll radical to the acceptor followed by dismutation of the radical. The author expresses his gratitude to Professor J. K. Stille for his constant interest and discussion of the work.

Card 2/3



L 39435-65

ACCESSION NR: AP5007665

ASSOCIATION: Institut geokhimii i analiticheskoy khimii im. V. N.  
Verkhovskogo Akademii Nauk SSSR (Institute of Geochemistry and  
Analytical Chemistry Academy of Sciences USSR)

SUBMITTED: 01Jun64

ENCL: 00

SUB CODE: LS, GC

NR REF SOV: 012

OTHER: 001

Card 3/3

CHIBISOV, A.K.; KARYAKIN, A.V.; ZUBRILINA, M.Ye.

Photoreduction of pigments under impulse illumination. Dokl. AN  
SSSR 161 no.2:483-486 Mr '65. (MIRA 18:4)

1. Institut geokhimii i analiticheskoy khimii im. V.I.Vernadskogo  
AN SSSR. Submitted June 11, 1964.

CHIBISOV, A.K.; KARYAKIN, A.V.; YEVSTIGNEYEV, V.B.; NAZAROV, I.G.

Study of primary photochemical relationships between chlorophyll pigments and electron acceptors and donors with the help of impulse spectroscopy. Biofizika 10 no.6:1098-1100 '65.  
(1966 1965)

1. Institut biokhimii imeni A.N.Bakha AN SSSR, Moskva.  
Submitted July 27, 1965.

L 29862-66 EWT(1)/EWP(m)

ACC NR: AP6013226

SOURCE CODE: UR/0421/66/000/002/0181/0182

AUTHOR: Chibisov, A. M. (Moscow)

47  
B

ORG: none

TITLE: Approximation of the equations of plane motion of a gas at high supersonic flow velocities

SOURCE: AN SSSR. Izvestiya. Mekhanika zhidkosti i gaza, no. 2, 1966, 181-182

TOPIC TAGS: gas flow, supersonic flow, mathematic analysis

ABSTRACT: The velocity potential and the flow function for the plane adiabatic supersonic flow of a gas satisfy the equations:

$$\frac{\partial \Phi_1}{\partial \xi} = -\sqrt{K_1} \frac{\partial \Psi_1}{\partial \xi}, \quad \frac{\partial \Phi_2}{\partial \eta} = \sqrt{K_1} \frac{\partial \Psi_2}{\partial \eta}, \quad 2\xi = \sigma - \theta, \quad 2\eta = \sigma + \theta \quad (1)$$

$$\sigma(\lambda) = \int_{\lambda}^{\infty} \left( \frac{\lambda^2 - 1}{1 - \lambda^2/h^2} \right)^{1/2} \frac{d\lambda}{\lambda}, \quad \sqrt{K_1} = (\lambda^2 - 1)^{1/2} (1 - \lambda^2/h^2)^{-1/2} \quad \left( h^2 = \frac{x+1}{x-1} \right) \quad (2)$$

Here  $\lambda$  is a subscript indicating an adiabatic curve;  $\lambda, \theta$  are the value and the angle of inclination of the vector of the relative velocity.

Card 1/2

L 29862-66

ACC NR: AP6013226

A transition to a physical plane can be made by the formulas:

$$dx = \cos \theta P(\lambda) d\psi_1 - \sin \theta Q(\lambda) d\psi_1, \quad dy = \sin \theta P(\lambda) d\psi_1 - \cos \theta Q(\lambda) d\psi_1$$

Results of the calculations based on the above premises are shown in two figures. Orig. art. has: 7 formulas and 2 figures.

SUB CODE: 20/ SUBM DATE: 20Sep65/ ORIG REF: 004/ OTH REF: 001.

Card 2/2

16.6100 16.6200

S/020/61/138/002/011/024  
C111/C222

AUTHOR: Chibisov, D.M.

TITLE: On the asymptotic power and efficiency of the  $\omega_n^2$  test

PERIODICAL: Akademiya nauk SSSR. Doklady, v. 138, no. 2, 1961, 322-325

TEXT: Let  $x_1, x_2, \dots, x_n$  be a selection of  $n$  independent observations of a random magnitude with the distribution function  $F(x)$ . Let  $F^{(n)}(x)$  be the empirical distribution function of this selection. The criterion  $\omega_n^2$  serves for the examination of the hypothesis  $F(x) = F_0(x)$  and is based on the statistics

$$\omega_n^2(F) = n \int_{-\infty}^{\infty} [F^{(n)}(x) - F_0(x)]^2 \psi(F_0(x)) dF_0(x) \quad (1)$$

where  $\psi(u) \geq 0$  ( $0 \leq u \leq 1$ ) is a weight function.

Let  $W^{(n)}(x; F) = P\{\omega_n^2(F) < x\}$  and  $P_{\alpha}^{(n)}(F) = 1 - W^{(n)}(x_{\alpha}; F)$ , where  $x_{\alpha}$  is a root of  $W(x, F_0) = 1 - \alpha$ . Furthermore

Card 1/6

23829

On the asymptotic power ...

S/020/61/138/002/011/024  
C111/C222

$$g_F^2 = \sum_{-\infty}^{\infty} [F(x) - F_0(x)]^2 \psi(F_0(x)) dF_0(x) \quad (2)$$

Let the function  $\delta(u)$ ,  $0 \leq u \leq 1$  be so that  $\delta(0) = \delta(1) = 0$  and

$$\int_0^1 \delta^2(u) \psi(u) du = 1 \quad (3)$$

The class of functions  $F_a(x) = F_0(x) + \frac{a}{\sqrt{n}} \delta(F_0(x))$  is denoted as the

class  $[\delta(u)]$ . Because of (3) it holds  $a^2 = n \sigma_{F_a}^2$ . For functions  $F_a(x) \in [\delta(u)]$  the author writes  $\omega_n^2(a)$ ,  $W^{(n)}(x, a)$  and  $P_{\mathcal{A}}^{(n)}(a)$  instead of  $\omega_n^2(F_a)$ ,  $W^{(n)}(x; F_a)$  and  $P_{\mathcal{A}}^{(n)}(F_a)$ . X

Let  $\lambda_j$  and  $f_j(u)$  ( $j = 1, 2, \dots$ ) be eigenvalues and eigenfunctions of

$$f(u) = \lambda \int_0^1 K(u, v) f(v) dv$$

Card 2/6

23829  
S/020/61/138/002/011/024  
C111/C222

On the asymptotic power ...

where  $K(u,v) = [\min(u,v) - uv] \sqrt{\psi(u)} \sqrt{\psi(v)}$ ,  $0 \leq u, v \leq 1$ . Let  $\lambda_k \geq \lambda_j$  for  $k > j$ . Let  $D(\lambda)$  be the Fredholm determinant of the integral equation.

The following conditions are defined :

I.  $F_0(x)$  and  $\delta(u)$  are continuous.

II.  $\psi(u)$  is continuous in every interval,  $0 < u_1 \leq u \leq u_2 < 1$  and it exists

$$\int_0^1 u(1-u)\psi(u)du = \int_0^1 K(u,u)du.$$

III. it exists  $\int_0^1 \delta(u)\psi(u)du$ .

IV. The condition of closedness is satisfied for the development

$$\delta(u) \sqrt{\psi(u)} = \sum_{k=1}^{\infty} \delta_k f_k(u), \text{ where } \delta_k = \int_0^1 f_k(u) \delta(u) \sqrt{\psi(u)} du.$$

Theorem 1 : Under the assumptions I - III for every  $a$  and  $n \rightarrow \infty$ ,  $w^{(n)}(x,a)$

converges weakly to  $w(x,a) = P \{ \omega^2(a) < x \}$ , where

Card 3/6



23829

On the asymptotic power ...

S/020/61/138/002/011/024  
G111/C222

$$\omega^2(a) = \int_0^1 [y(u) + a \delta(u)]^2 \psi(u) du, \quad (4)$$

and  $y(u)$ ,  $0 \leq u \leq 1$  is a Gaussian random process with  $M_y(u) = 0$ ,

$R_y(u)y(v) = \min(u,v) - uv$ ,

Theorem 2 : Under the assumptions I - IV,  $W(x,a)$  has the characteristic function

$$\varphi(t,a) = \frac{1}{\sqrt{D(2it)}} \exp \left\{ a^2 \sum_{k=1}^{\infty} \frac{it \lambda_k \delta_k^2}{\lambda_k - 2it} \right\}. \quad (5)$$

Theorem 3 : For  $a \rightarrow \infty$  it holds

$$W(x,a) - \phi\left(\frac{x - \alpha^2}{2a^2}\right) \rightarrow 0 \quad (7)$$

uniformly in  $x$ . Here

$$\phi(x) = \frac{1}{\sqrt{2\pi}} \int_{-\infty}^x e^{-t^2/2} dt \quad \text{and}$$

Card 4/6

On the asymptotic power ...

S/020/61/138/<sup>23829</sup>002/011/024  
C111/C222

criterion for the examination of the hypothesis  $F(x) = x$  with respect to the alternative  $F(x) = F_a(x)$ .

The author mentions N.V. Smirnov. There is 1 Soviet-bloc and 3 non-Soviet-bloc references. The references to the two English-language publications read as follows : T.W. Anderson, D.A. Darling, Ann.Math. Stat., 23, 2, 193 (1952). D.G. Chapman, Ann. Math. Stat., 29, 3, 655 (1958). X

ASSOCIATION: Matematicheskii institut imeni V.A. Steklova Akademii nauk SSSR (Mathematical Institute imeni V.A. Steklov of the Academy of Sciences USSR)

PRESENTED: December 20, 1960, by A.N. Kolmogorov, Academician

SUBMITTED: December 17, 1960

Card 6/6

CHIBISOV, D.M.

Some theorems on the limit behavior of an empirical distribution  
function. Izv. Mat. Inst. 71:102-112 '64.

(MIRA 18:2)

CHIRISOV, D. M.

"Limit Distribution for the Number of Runs in a Bernoulli Trials."

A Summary of Papers Presented at the Session of the Scientific Research Seminar on the Theory of Probability, Moscow, September-March 1957-1958. *Teoriya veroyatnostey i yeye primeneniya*, 1958, Vol III, Nr 2, pp 212-216 (USSR)

Summary: If  $k$  represents a number of independent runs in two trials, the probability of a positive trial being  $p$  and a negative trial being  $q=1-p$ , then at  $i$ -run ( $i \geq r$ ) a series  $r$  can be found:  $i-r+1, i-r+2 \dots$ . The trial  $(i)$  will be positive and the trial  $(i-r)$  negative ( $i \geq r+1$ ). The number of series  $r$  is  $N$ . The conditions for  $p, q, r, k \rightarrow \infty$  are given by (1) (2) and (3).

CHIBISOV, D.M. (Moscow)

Limit distributions for the terms of a variational series. Teor.  
veroiat. i ee prim. 9 no.1:159-165 '64. (MIRA 17:4)

CHIBISOV, D.M. (Moscow)

Asymptotic power of goodness-of-fit tests with near alternatives.  
Teor. veroiat. i ee prim. 9 no.3:561-562 '64.

(MIRA 17:10)

*CHIBISOV, GEORGIY PETROVICH*

PHASE I BOOK EXPLOITATION      831

Chibisov, Georgiy Petrovich, Engineer

Kontaktnaya kondensatornaya svarka melkikh i tonkostennykh detaley  
(Condenser-fed Resistance Welding of Small and Thin-walled Parts)  
Leningrad, 1956. 6 p. (Series: Leningradskiy dom nauchno-  
tekhnicheskoy propagandy. Informatsionno -tekhnicheskii listok,  
no. 23. Svarka i payka metallov) 6,000 copies printed.

Sponsoring Agencies: Vsesoyuznoye obshchestvo po rasprostraneniyu  
politicheskikh i nauchnykh znaniy, Leningradskiy dom nauchno-  
tekhnicheskoy propagandy.

Ed.: Ryzhik, Z.M., Engineer; Tech. Ed.: Freger, D.P.

PURPOSE: The booklet is intended for metallurgists and welders  
interested in condenser-fed resistance welding of small parts.

Card 1/2

Condenser-fed Resistance (Cont.)

831

**COVERAGE:** The author describes the design of a condenser-fed resistance welding unit used for high-production welding of small-diameter copper leads to thin nickel-coated tombac caps. The technology of welding with this type of welding unit and its operating conditions are also discussed. This unit is especially suitable for welding thin-walled parts of small dimensions used in the radio and instrument industries. There are five diagrams and two Soviet references. There is no Table of Contents. The booklet is divided as follows:

|                                                                                          |   |
|------------------------------------------------------------------------------------------|---|
| Layout of the Welding Unit for Condenser-fed Resistance Welding                          | 1 |
| Technology of Welding                                                                    | 5 |
| Selection of the Operating Conditions for Welding                                        | 6 |
| Joining of Small Parts by Condenser-fed Resistance Welding and the Fields of Application | 7 |

**AVAILABLE:** Library of Congress

Card 2/2

GO/jmr  
11-24-58



SPIRICHEV, S.V.; GAVRILYUK, I.N.; KRASHENNIKOV, V.F.; CHIBISOV, I.I.

Accelerated techniques for drying components. Prom. energ. 18  
no.1:10-11 Ja '63. (MIRA 16:4)

(Electric heating)

MIKHAYLOVA, A.A.; CHIBISOV, I.K.

Various forms of desensitization. Usp.nauch.fot.no.4:144-149  
'55. (Photographic emulsions) (MLRA 9:4)

L 5198-66 EWT(1)/EPA(s)-2/EPF(n)-2/T-2/ETC(m) WW

ACC NR: AP5025002

SOURCE CODE: UR/0286/65/000/016/0063/0063

AUTHOR: Chibisov, I. T.

ORG: none

TITLE: Water-jet vacuum pump. Class 27, No. 173872 [announced by the Special Structural Bureau (Osoboye konstruktorskoye byuro)]

SOURCE: Byulleten' izobreteniy i tovarnykh znakov, no. 16, 1965, 63

TOPIC TAGS: vacuum pump, jet flow, pressure distribution

ABSTRACT: This Author Certificate presents a water-jet vacuum pump with a central conduit for the ejected medium. The tube has a tapered portion at its outlet, consisting of a water-pressure, ring-shaped chamber connected to a mixing chamber by a ring slit (see Fig. 1). To secure a stable operation and to increase its output, the slit is made in the form of an ejector. The tapered part of the slit is connected to the central conduit through ports.

Card 1/2

09010764

L 5129-66

ACCESSION NR: AP5026303

was realized in the form of logical structural teaching sequence. In addition to the general descriptions the article gives the algorithm in operator form, presents the block diagram of the teaching machine (which is audio-visual) and of the sample of teaching and control program, and concludes with the functional diagram of the machine and the semiconductor unit for the read-out of the program from the punchtape. Orig. art. has: 1 formula and 5 figures.

ASSOCIATION: [Delyatovskiy] Institut kibernetiki AN UkrSSR (Institute of Cybernetics, AN UkrSSR), [Sotnikov] Kafedra avtomatizatsii proizvodstvennykh protsessov Rostovskogo instituta sel'khoz mashinostroyeniya (Department of Automation of Production Processes, Rostov Institute of Agricultural Machine Construction)

SUBMITTED: 16Oct64

ENCL: 00

SUB CODE: DP

NO REF SOV: 005

OTHER: 001

OC  
Card 2/2

CHERNOV, O.I.; CHIBISOV, I.V.

Degasification of coal seams in the Kuznetsk Basin. Vop.  
bezop. v ugol'. shakh. 1:119-131 '59. (MIRA 17:12)

CHIBISOV, I.V.; KONDRASHOV, A.D.; GREBTSOV, Ye.M.

Practice of using external water stemming to reduce the amount  
of dust in the air during blasting. Bor'ba s sil. 5:151-155 '62;  
(MIRA 16:5)

1. Shakhtinskiy nauchno-issledovatel'skiy ugol'nyy institut.  
(Blasting—Equipment and supplies) (Mine dusts—Prevention)

CHIBISOV, K.

Device used for testing tachometers. Pozh. delo 4 no.5:17 My '58.  
(Tachometer--Testing) (MIRA 11:5)

CHIBIROV, Khristofor Tadeozovich; BZAYEV, K.K., red.; DATRIYEVA, Ye.U.,  
tekhn.red.

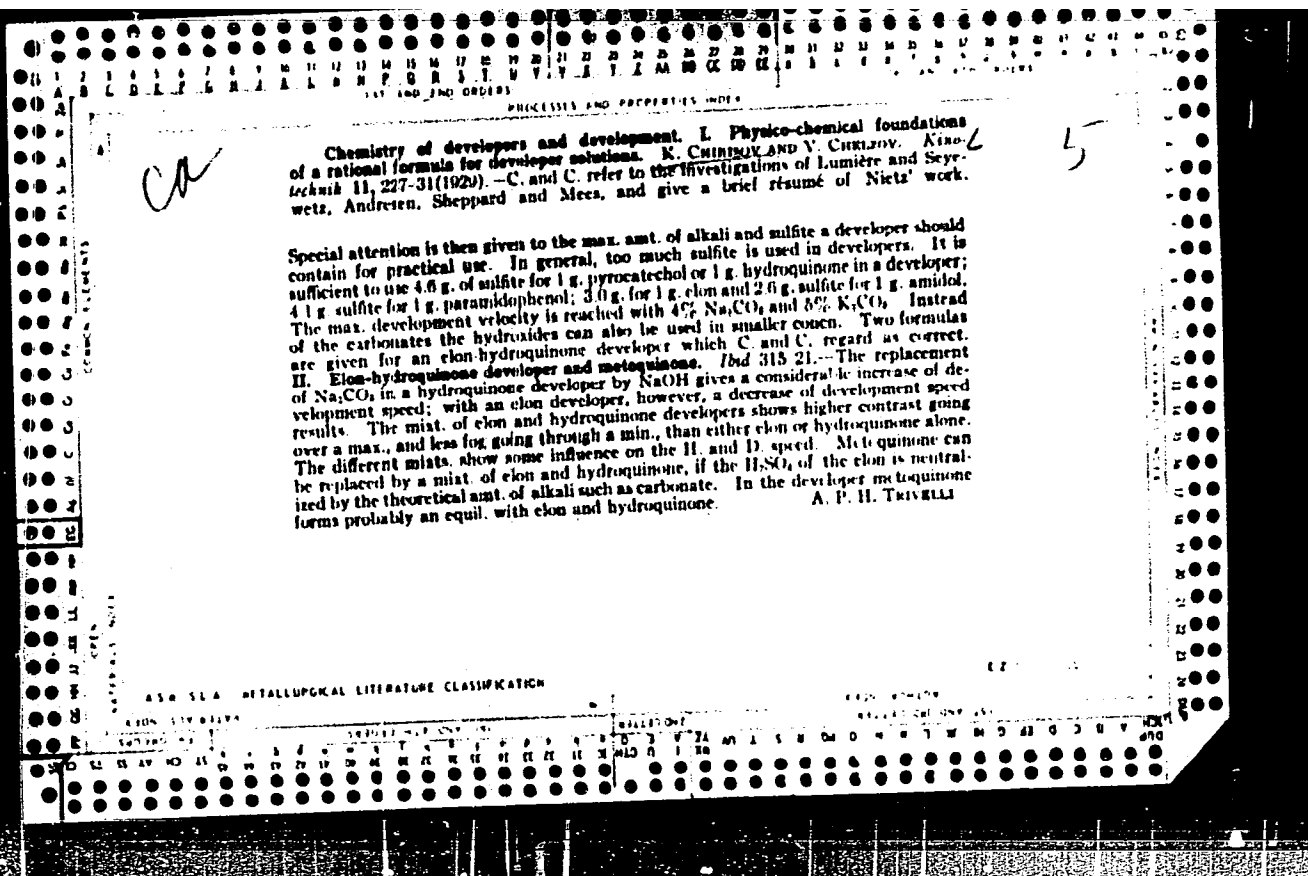
[North Ossetia in the fraternal family of U.S.S.R. peoples]

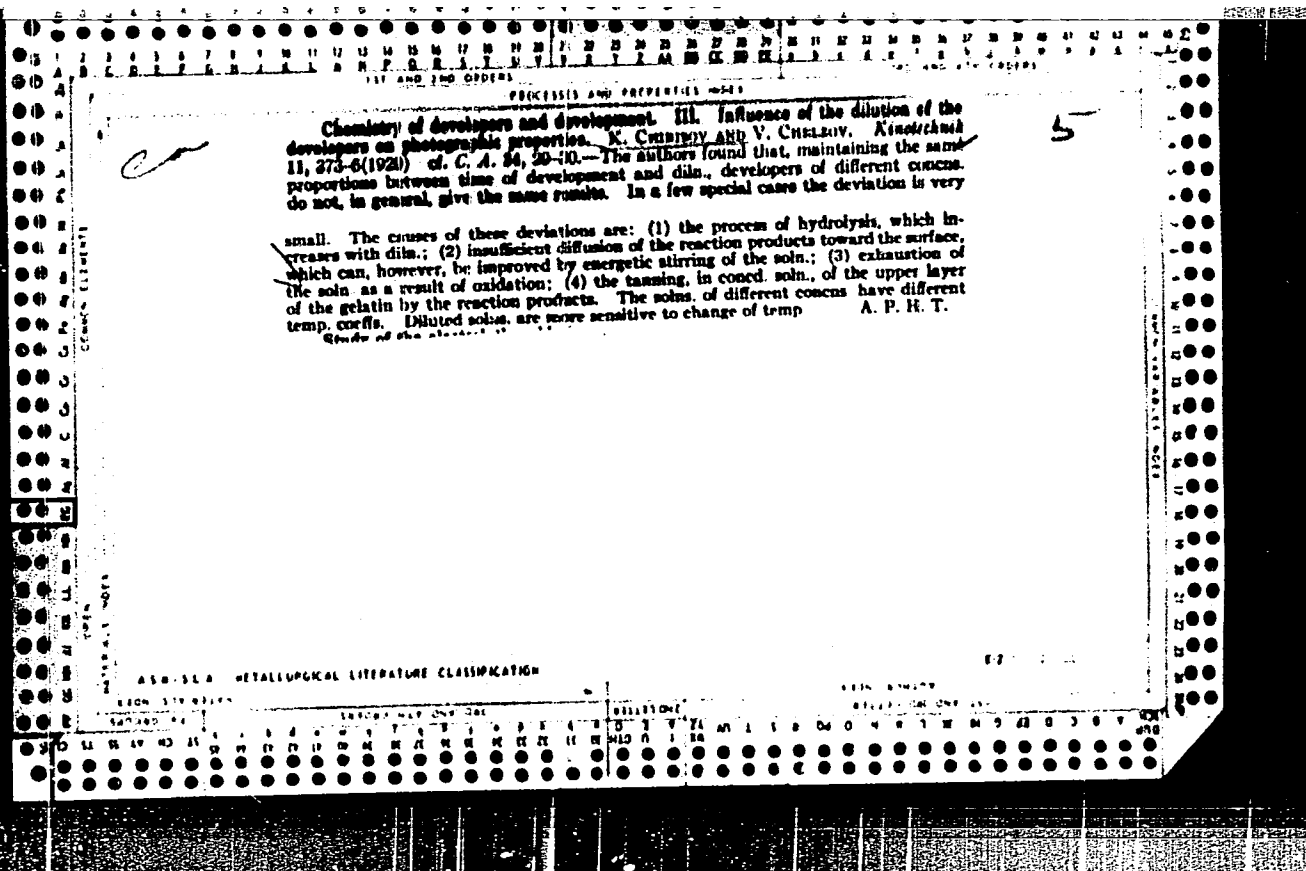
Severnaya Osetiya v bratskoi sem'e narodov SSSR. Ordzhoni-  
kidze, Severo-Osetinskoe knizhnoe izd-vo, 1960. 100 p.

(MIRA 13:10)

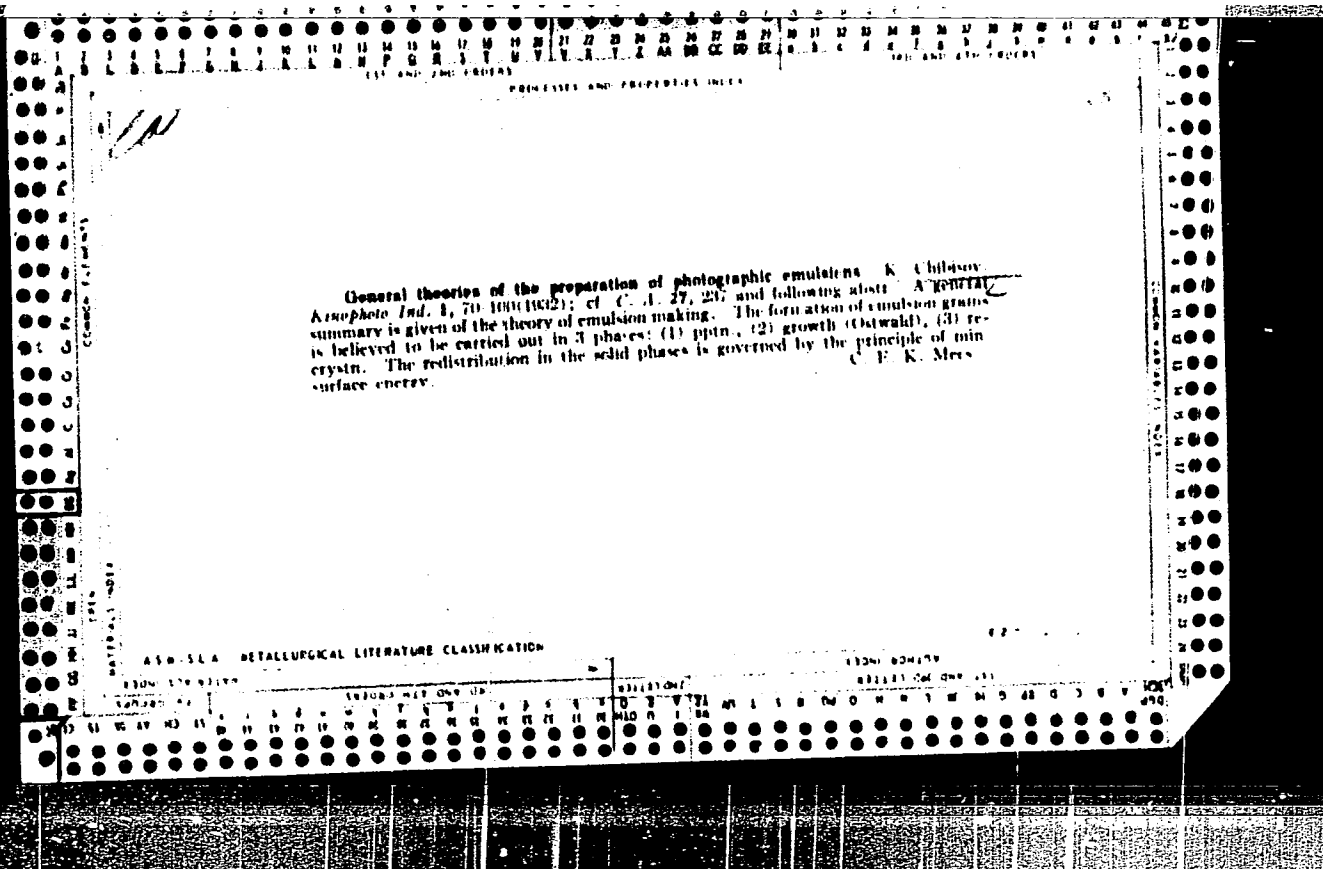
(Ossetia--Economic conditions)

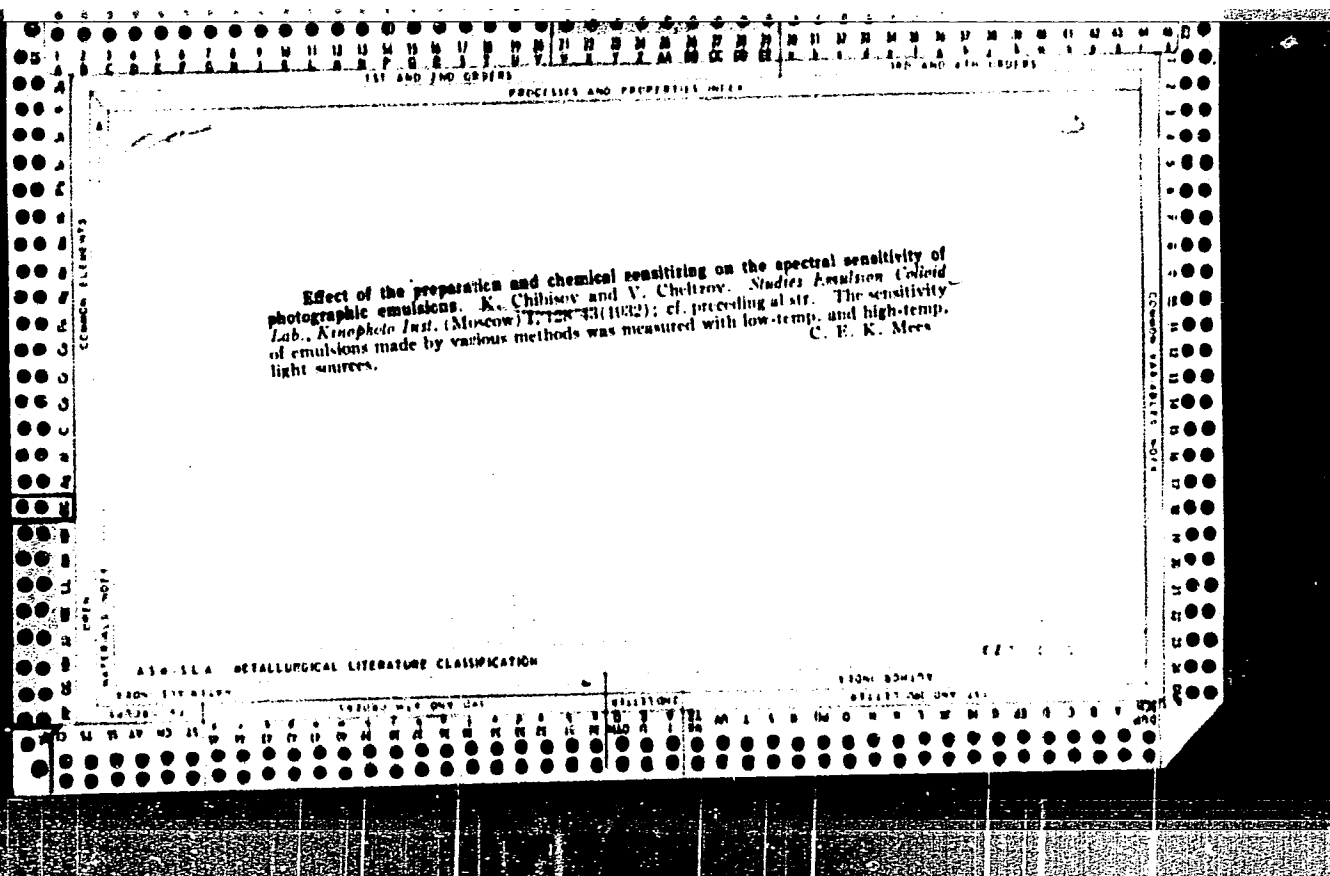


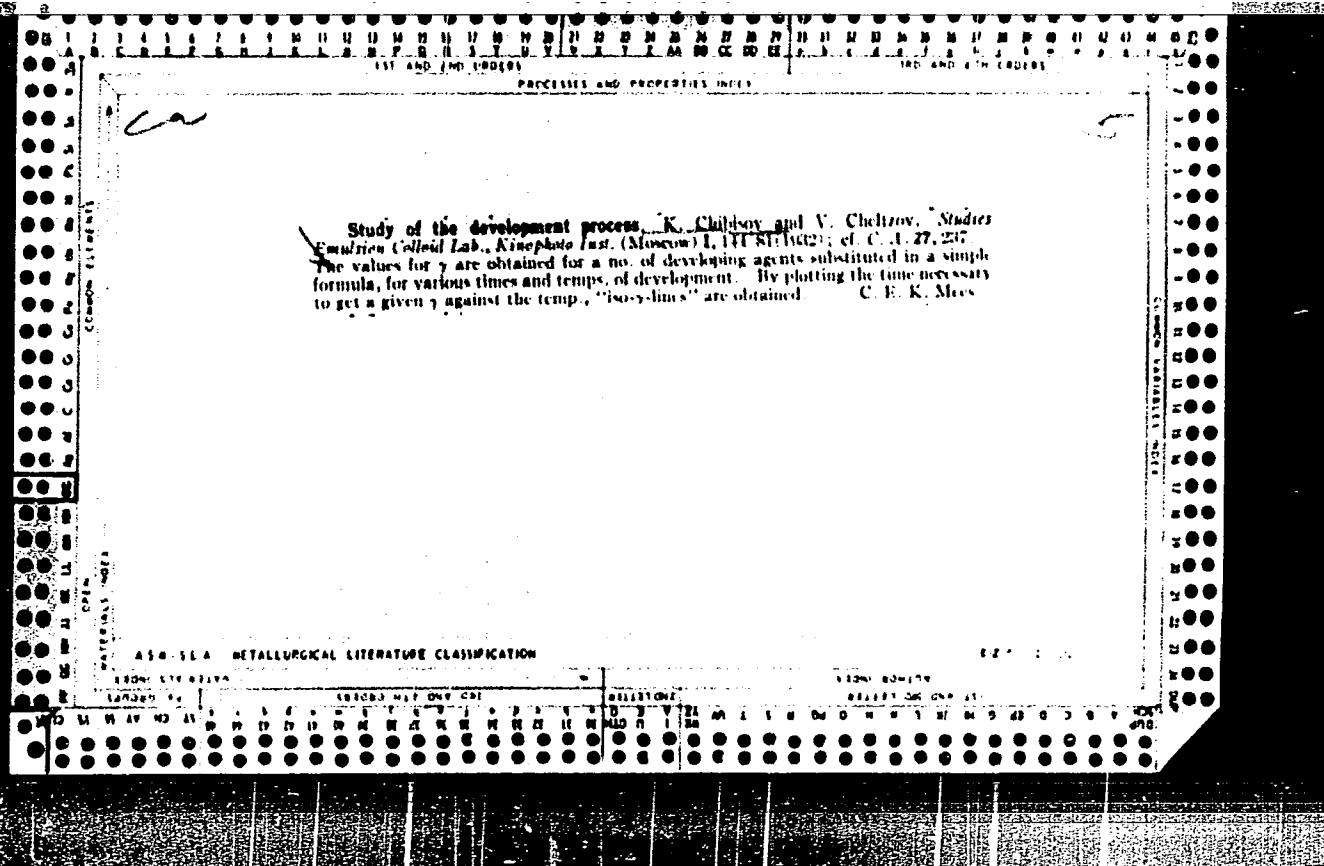


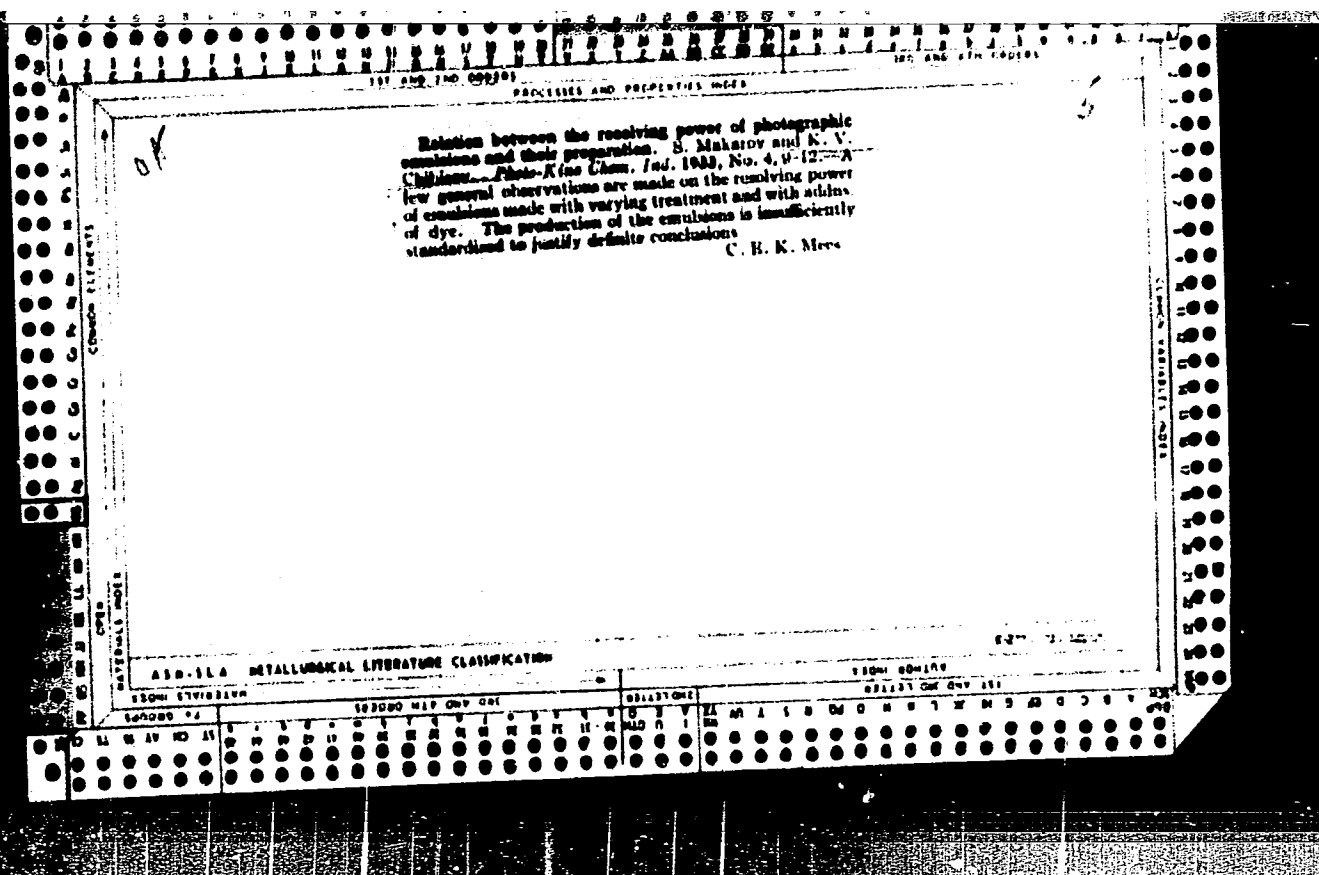


| LIST AND (AND) ORDER                                                                                                                                                                                                                                                                                             |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | PROCESSES AND PROPERTIES INDEX |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--------------------------------|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|
| <p>Experimental preparation of photographic emulsions. N. Chulova. <i>Studies Emulsion Colloid Lab., Kinophoto Inst. (Moscow) 1, 29 127(1962); cf. preceding abstr.</i> A detailed study of the effect of the quantity of AgI and of excess bromide upon the quality of emulsions made by a given procedure.</p> |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |                                |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| <p>ASW-51A METALLURGICAL LITERATURE CLASSIFICATION</p>                                                                                                                                                                                                                                                           |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |                                |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |







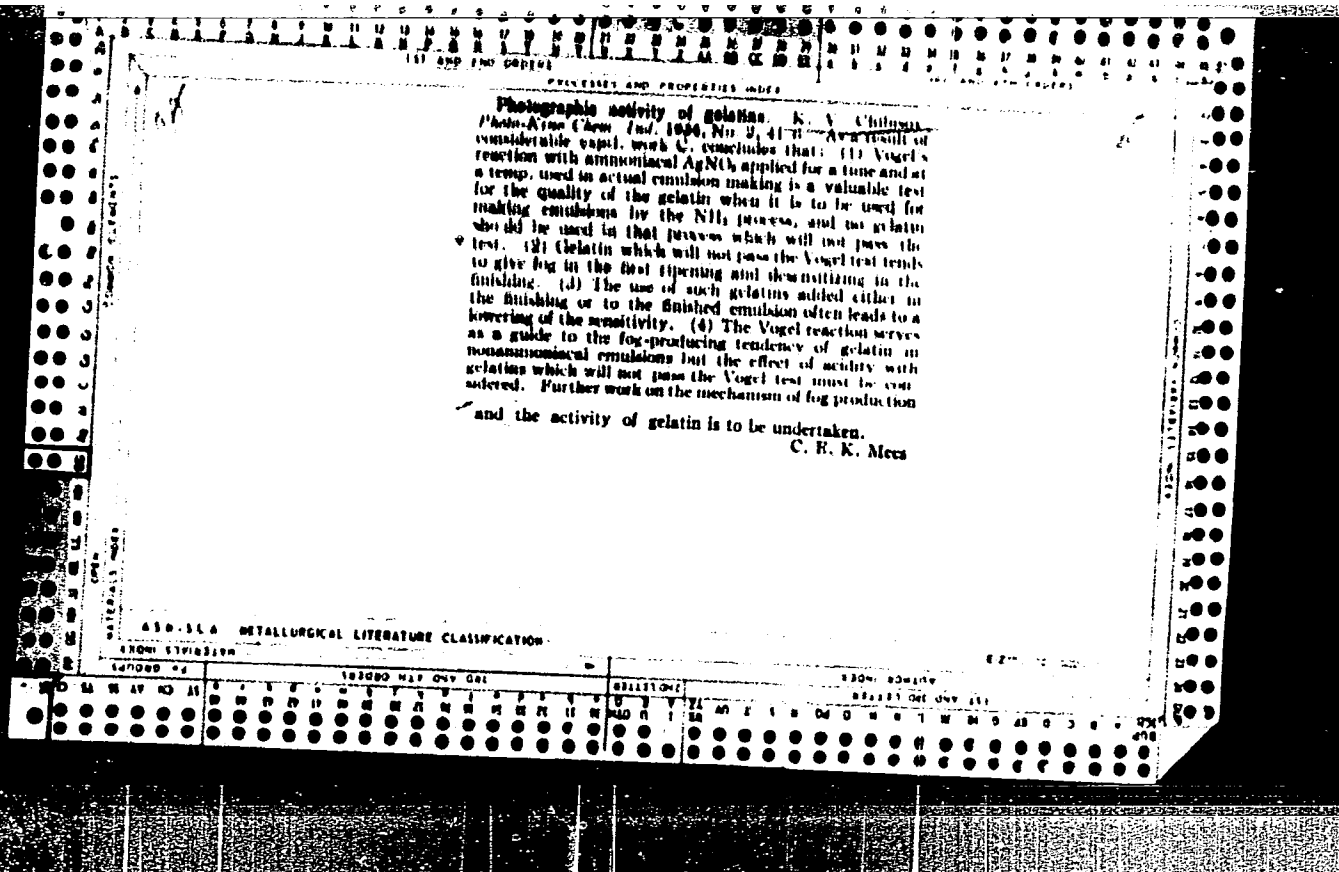


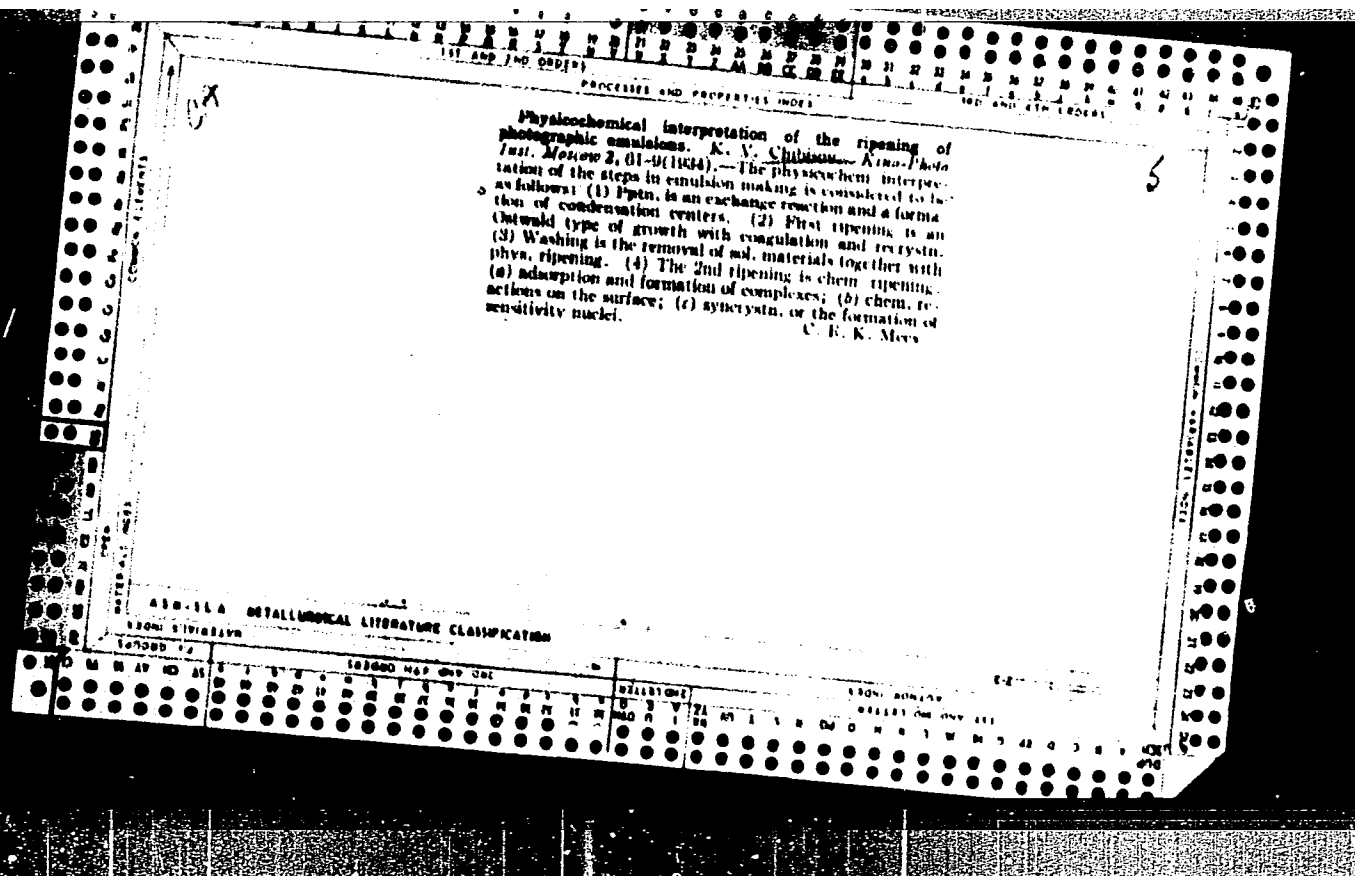
*Optical sensitizers for use in emulsions.* K. V. Chl-  
ov and V. S. Cheltsov. *Kino-Photo Inst. Moscow Z.*  
*1-20(1964).*—A study illustrated with curves showing  
the effect produced by the addn. of a large no. of sensitizers  
to emulsions.  
C. R. K. Mees



Preparation of emulsions for optical sensitizing. K. V. Childe and N. V. Makarov. *Photo-Kino Chem. Ind.* 1936, No. 2, 8-11. The effect of variations in the type of emulsion, its formula and its ripening, on sensitizing with a series of dyes, is studied. With fine-grained emulsions optical sensitizers can increase the total effective sensitivity, this increase depending upon the distribution of the sensitizer between the emulsion grains and the gelatin. The presence of free bromide ions in the emulsion lowers the sensitivity when acid dyes, such as erythrosin, are used but has little effect with other sensitizers. An increase in the iodide content is detrimental to color sensitizing. With emulsions with erythrosin, with neutral emulsions it has little effect. On the whole, it is concluded that the chemical characteristics of an emulsion have only a small effect on its suitability for sensitizing, and the sensitivity obtained depends chiefly upon the size of the emulsion grain.

C. R. K. Mies





| 1ST AND 2ND ORDERS                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |  |  |  |  |  |  |  |  |  | PROCESSES AND PROPERTIES INDEX |  |  |  |  |  |  |  |  |  | 3RD AND 4TH ORDERS |  |  |  |  |  |  |  |  |  |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|--|--|--|--|--|--|--|--|--------------------------------|--|--|--|--|--|--|--|--|--|--------------------|--|--|--|--|--|--|--|--|--|
| <p>Preparation of photographic emulsions. II. Emulsions without ammonia. N. V. Makarov and K. V. Chibrikov. <i>Kino-Photo Inst. Moscow</i> 2, 70 (1934). Effects of KBr or NH<sub>4</sub>Br has the following influence on <math>\gamma</math>. (1) For pure AgBr emulsions <math>\gamma</math> decreases, at first rapidly, later more slowly, with increasing excess of bromide. (2) In bromo-iodide emulsions the value of <math>\gamma</math> may pass through a max. with increasing excess. The value of <math>\gamma</math> in pure AgBr emulsions depends upon the increasing soly. of the AgBr and diminishes as a result of the degree of dispersion of the heavy phase. In bromo-iodide emulsions this degree of dispersion depends upon the proportion of AgI present. The sensitivity is affected very greatly by the concn. of the free bromide during the 1st ripening, the relation of the sensitivity to the concn. passing through a max. The addn. of AgCl to a AgBr emulsion during the 1st ripening enables higher sensitivity to be obtained in the 2nd ripening, the use of 5% AgCl being effective. Emulsions contg. Ag bromide-iodide and AgCl with excess of chloride in the 2nd ripening are valuable for pos. materials. The effect of the gelatin concn. on the pptn. of the heavy phase has little effect on the property of the emulsions. A suitable concn. is 1-2%. The concn. of the salts and Ag during pptn. and ripening is of great importance. C. B. K. M.</p> |  |  |  |  |  |  |  |  |  |                                |  |  |  |  |  |  |  |  |  |                    |  |  |  |  |  |  |  |  |  |
| <p>ASH-15A METALLURGICAL LITERATURE CLASSIFICATION</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |  |  |  |  |  |  |  |  |  |                                |  |  |  |  |  |  |  |  |  |                    |  |  |  |  |  |  |  |  |  |
| SUBORD. DIVISION                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |  |  |  |  |  |  |  |  |  | SUBORD. DIVISION               |  |  |  |  |  |  |  |  |  | SUBORD. DIVISION   |  |  |  |  |  |  |  |  |  |
| SUBORD. DIVISION                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |  |  |  |  |  |  |  |  |  | SUBORD. DIVISION               |  |  |  |  |  |  |  |  |  | SUBORD. DIVISION   |  |  |  |  |  |  |  |  |  |

| 1ST AND 2ND CODES                                                                                                                                                                                                                                                                                                                                                                                              |  |  |  |  |  |  |  |  |  | PROCESSING AND PROPERTY INDEX |  |  |  |  |  |  |  |  |  | 3RD AND 4TH CODES |  |  |  |  |  |  |  |  |  |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|--|--|--|--|--|--|--|--|-------------------------------|--|--|--|--|--|--|--|--|--|-------------------|--|--|--|--|--|--|--|--|--|
| <p>1X</p> <p>Dependence of the Schwarzschild effect on the preparation of the emulsion. K. V. Chudakov. <i>Kino-Foto Inst. Moscow 2, 90-120 (1954)</i>. -- The value of the Schwarzschild coeff. measured by Von Huh's method is affected by a no. of factors in the making of the emulsion. There is a definite increase in the coeff. during the 2nd ripening when active gelatin is used. C. B. K. Mees</p> |  |  |  |  |  |  |  |  |  |                               |  |  |  |  |  |  |  |  |  |                   |  |  |  |  |  |  |  |  |  |
| <p>ASB-5LA METALLURGICAL LITERATURE CLASSIFICATION</p>                                                                                                                                                                                                                                                                                                                                                         |  |  |  |  |  |  |  |  |  |                               |  |  |  |  |  |  |  |  |  |                   |  |  |  |  |  |  |  |  |  |
| 1ST CODE                                                                                                                                                                                                                                                                                                                                                                                                       |  |  |  |  |  |  |  |  |  | 2ND CODE                      |  |  |  |  |  |  |  |  |  | 3RD CODE          |  |  |  |  |  |  |  |  |  |
| 10000 111 000 001                                                                                                                                                                                                                                                                                                                                                                                              |  |  |  |  |  |  |  |  |  | 10000 111 000 001             |  |  |  |  |  |  |  |  |  | 10000 111 000 001 |  |  |  |  |  |  |  |  |  |
| 10000 111 000 001                                                                                                                                                                                                                                                                                                                                                                                              |  |  |  |  |  |  |  |  |  | 10000 111 000 001             |  |  |  |  |  |  |  |  |  | 10000 111 000 001 |  |  |  |  |  |  |  |  |  |



The resolving power of photographic emulsions in relation to their preparation. K. V. Chibrikov and N. V. Makharov. Trans. Kino-Photo Research Inst. (Moscow), 9, 70 (1938). A study was made of the effect on the resolving power of the extent of the 2nd digestion, the concn. of the gelatin in emulsionation, the extent of the 1st digestion, the rate of addn. of AgNO<sub>3</sub>, the amt. of AgI in the emulsions, the total concn. of the reagents, optical sensitizing, the addn. of yellow dye, and the mixt. of sensitizers. The rate of addn. and the amt. of AgI have a marked effect on the resolving power which increases from 32 to 60 for a series of emulsions of approx. the same speed as the AgI increases from 0 to 5%. The duration of ripening shows no effect in spite of its influence on speed ripening shows no effect in spite of its influence on speed ripening shows no effect in spite of its influence on speed ripening shows no effect in spite of its influence on speed ripening.

C. F. K. Mees.

1ST AND 2ND ORDERS

PROCESSES AND PROPERTIES INDEX

5

*The aging of photographic emulsions. K. V. Chibisov, A. V. Poletrinskaya and S. A. Pulina. Trans. Kirov-Photo Research Inst (Moscow) 3, 104 22(1955); cf. C. A. 80, 6046. Measurements of the effect of increased temp (35° and 45°) on the aging of emulsions at various humidities and with emulsions made by various methods are described. The aging process is considered to be a definite chem. ripening of the same type as that which occurs in the 2nd digestion. This ripening depends on the nature of the gelatin and takes place more rapidly at the higher humidities. Little ripening takes place at humidities below 30%. The after-ripening is diminished for a given sensitivity and min. fog by increasing the 1st digestion and correspondingly shortening the 2nd. The introduction of KBr in the 2nd digestion notably stabilizes the emulsion. C. E. K. Mees*

450-51A METALLURGICAL LITERATURE CLASSIFICATION

FROM 1718211A

18100N 1111 ONV 001

001111 ONV 111

FROM 1718211A

18100N 1111 ONV 001

001111 ONV 111



5

*ca*

Physicochemical mechanism of the ripening of photographic emulsions. K. V. Chilingar and A. A. Mikhailov. *Trans. Kino-Photo Research Inst.* (Moscow) 3, 143 61(1935); cf. C. A. 30, 6947. The crystal form of the AgBr grain is octahedral; excess of Ag or Br ions has no influence on the form of the crystals. Grain counts show that the 1st ripening is a definite phys. ripening, i.e., a crystn. of AgBr. In the 2nd ripening, however, the dispersity of the AgBr is not changed, the particles formed from the emulsification persisting through the 2nd ripening independently of the stage at which the 1st ripening was stopped.  
C. R. K. Mees

ASD-SLA METALLURGICAL LITERATURE CLASSIFICATION

SECTION DIVISION  
SUBDIVISION

SECTION DIVISION  
SUBDIVISION

1st and 2nd Enders

PROCESSOR AND PROJECTION UNIT

Handwritten: *CR*

Handwritten: *L/*

Handwritten: *Common 1-1000's*

Handwritten: *OPEN*

Handwritten: *MATERIALS MODES*

ASB-SLA METALLURGICAL LITERATURE CLASSIFICATION

18001 17002110

180023 180024 180025 180026 180027 180028 180029 180030 180031 180032 180033 180034 180035 180036 180037 180038 180039 180040 180041 180042 180043 180044 180045 180046 180047 180048 180049 180050 180051 180052 180053 180054 180055 180056 180057 180058 180059 180060 180061 180062 180063 180064 180065 180066 180067 180068 180069 180070 180071 180072 180073 180074 180075 180076 180077 180078 180079 180080 180081 180082 180083 180084 180085 180086 180087 180088 180089 180090 180091 180092 180093 180094 180095 180096 180097 180098 180099 180100

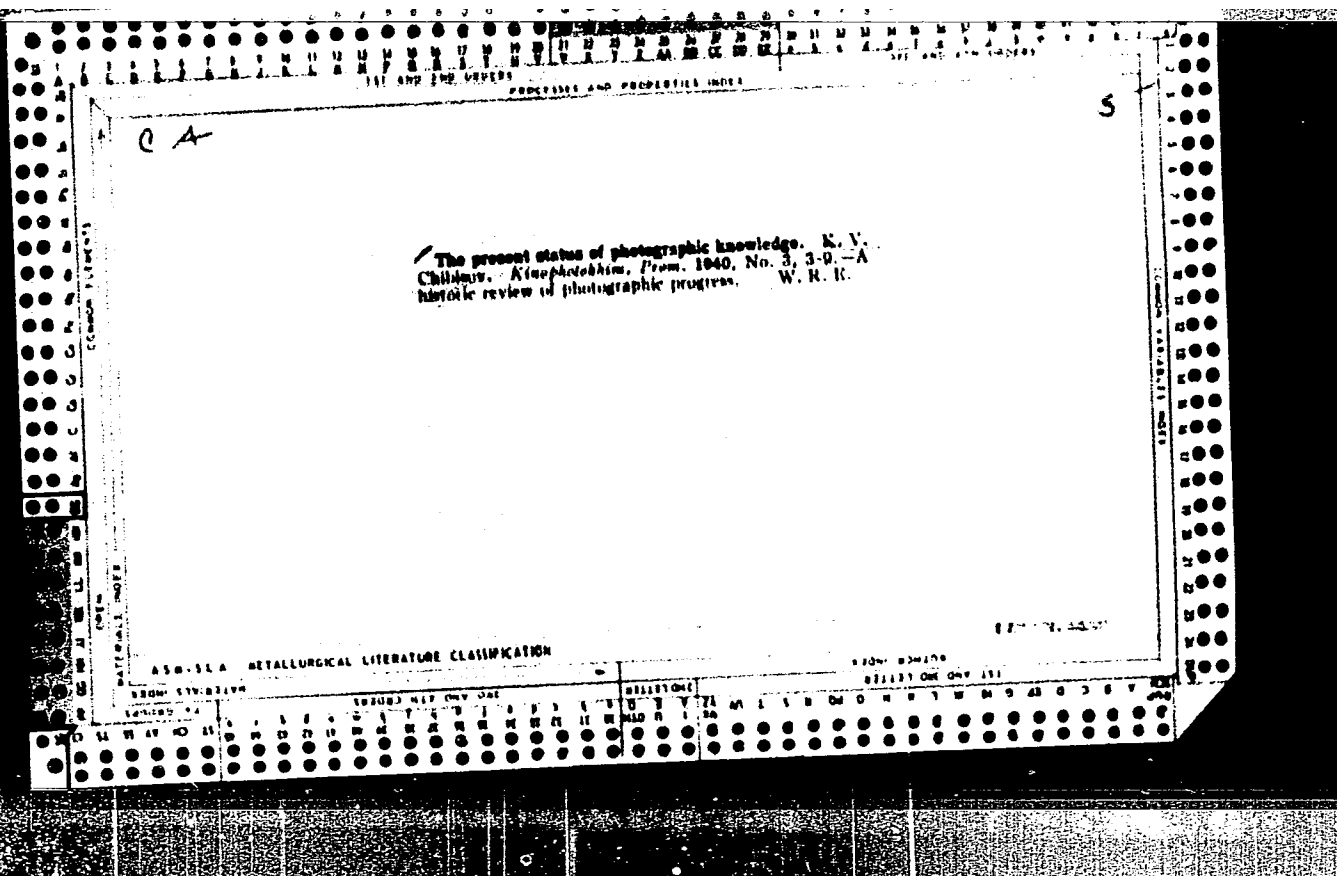






Errors in the measurement of photographic blackening with the Martens polarizing densitometer. G. S. Batanov and K. V. Chidmoy. *Kinofotokhim. Prom.* 4, No. 12, 38-48 (1938); *Chem. Zvest.* 1939, 11, 782-3. The phys. bases of the optical methods of measuring photographic blackening are presented; the diffuse, normal and effective optical  $d_a$  are defined; and the method of Boutry (cf. *Congr. int. Photo. sci. appl. Procs-Verbaux, Rapports, Mem.* 6, 407-77 (1930)) is further developed. Measurements were made with the Martens polarizing app., for which a basic formula for the measurement of optical  $d$  is given. Sources of error adherent in the densograph are discussed and means for their elimination pointed out. Errors arising by reason of the properties of the eye and the accuracy of the analyzer are discussed with reference to the work of Schaum and Stoess (cf. *C. A.* 19, 615). The results of exptl. studies on both types of sources of error are evaluated. M. G. Moore

ASB-35A METALLURGICAL LITERATURE CLASSIFICATION



| LIST AND INDEX ORDER                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |  | PROCESSES AND PROPERTIES INDEX |  |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|--------------------------------|--|
| <p>Study of fog formation. K. V. Chibisov and A. A. Mikhailova. <i>Kinofotokhim. Prom.</i> 6, No. 6, 24-32 (1949).</p> <p>Photographic fog is defined as photographic d. obtained by development without exposure. Chem. fog is divided into 3 groups: (1) emulsion fog, (2) development fog and (3) <i>new</i> chem. fog. Chem. formation of latent fog and formation of the latent image are considered to be identical processes. Latent-image theories are considered in some detail and in relation to development theories. The reversal of emulsion fog with long finishing, discovered by C. and M., is discussed in relation to reversal of chem. fog by <math>H_2O_2</math>, <math>Na_2AsO_4</math>, etc. The results of expts. on the reversal of emulsion fog with long finishing show that dispersion of the solid phase and AgI content are important factors but that the kind of gelatin used is unimportant. Photographic emulsions coated at the moment of reversal of fog d. become direct positives of low sensitivity. Solarization is discussed in relation to reversal of emulsion fog with prolonged finishing. W. R. R. and W. F. S.</p> |  | 5                              |  |
| <p>ASR-51A METALLURGICAL LITERATURE CLASSIFICATION</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |  |                                |  |
| <p>FROM STRIP</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |  | <p>23000 23000 23000</p>       |  |
| <p>23000 23000 23000</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |  | <p>23000 23000 23000</p>       |  |



| PROCESSING AND PROPERTY INDEX                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |   |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---|
| CA                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 5 |
| <p><b>Functions of gelatin in the ripening of photographic emulsions.</b> K. V. Chibisov and A. A. Mikhailova. <i>Kinofotobhim. Prom.</i> 6, No. 7, 24-8(1940).—The mechanism of the growth and chem. sensitizing of emulsion grains as conditioned by the gelatin used is discussed. The adsorption of materials to the surface of the Ag halide is considered to play a large part. To test this, gelatins were treated with Ag and Ag salts, these were removed and the gelatins were used in prep. emulsions. The photographic and size-frequency characteristics of the resulting emulsions were then detd. <b>Conclusions:</b> (1) Gelatin affects the crystn. process owing to the action of certain substances present; (2) a selectivity of adsorption takes place; and (3) metallic Ag changes the properties of gelatin so that crystal growth is strongly inhibited.</p> <p>W. R. Eichler and J. A. Leermakers</p> |   |
| <p>ASG-SLA METALLURGICAL LITERATURE CLASSIFICATION</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |   |
| <p>63.121.01 ONV 151</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |   |
| <p>63.121.01 ONV 151</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |   |

| PROCESSING AND PROPERTIES INDEX                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |  |  |  |  |  |  |  |  |  |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|--|--|--|--|--|--|--|--|
| <p><i>Ca</i></p> <p>The photographic study and classification of gelatin. K. V. Chibrikov. <i>Kinofotokhim. Prom.</i> 6, No. 10, 60-5 (1940).—C. answers a critique by Trivelli and Smith (C. A. 33, 537) concerning the Russian classification of relations for photographic purposes. The critique supported that part of the rule concerning <math>\gamma</math> but rejected the part dealing with sensitivity. C. reaffirms the original proposal (Shakarov's rule, C. A. 31, 827) in its entirety. Much of the previous data has been retabulated and re-evaluated. The paper by Trivelli and Smith (C. A. 33, 8067) concerning the relation between contrast and grain size is discussed also in relation to the gelatin problem.</p> <p>W. R. Richler and W. P. Smith</p> |  |  |  |  |  |  |  |  |  |
| <p>ASB-ELA METALLURGICAL LITERATURE CLASSIFICATION</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |  |  |  |  |  |  |  |  |  |
| <p>SECTION 1: MATERIALS INDEX</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |  |  |  |  |  |  |  |  |  |
| <p>SECTION 2: METALLURGICAL LITERATURE CLASSIFICATION</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |  |  |  |  |  |  |  |  |  |
| <p>SECTION 3: METALLURGICAL LITERATURE CLASSIFICATION</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |  |  |  |  |  |  |  |  |  |
| <p>SECTION 4: METALLURGICAL LITERATURE CLASSIFICATION</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |  |  |  |  |  |  |  |  |  |
| <p>SECTION 5: METALLURGICAL LITERATURE CLASSIFICATION</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |  |  |  |  |  |  |  |  |  |
| <p>SECTION 6: METALLURGICAL LITERATURE CLASSIFICATION</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |  |  |  |  |  |  |  |  |  |
| <p>SECTION 7: METALLURGICAL LITERATURE CLASSIFICATION</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |  |  |  |  |  |  |  |  |  |
| <p>SECTION 8: METALLURGICAL LITERATURE CLASSIFICATION</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |  |  |  |  |  |  |  |  |  |
| <p>SECTION 9: METALLURGICAL LITERATURE CLASSIFICATION</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |  |  |  |  |  |  |  |  |  |
| <p>SECTION 10: METALLURGICAL LITERATURE CLASSIFICATION</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |  |  |  |  |  |  |  |  |  |

P.A.

*Sensitizing + Sensitometry*

460

771.535

**New Data on the Nature of Photographic Sensitivity.** K. V. CHUDOV, A. A. TITOV and A. A. MIKHAILOVA. *Compt. rend. acad. sci. U.S.S.R.*, **30**, 709-12, 1946. -- In an investigation of the nature of sensitivity centres in the silver halide grains of a photographic emulsion, the authors determined both the amounts of silver ions that reacted with gelatin and the silver sulphide formed during heating of a mixture of solutions of gelatin and silver nitrate in water (TITOV, *Trudy Nauch. Issledovatel. Kino-Foto Inst.*, No. 7, 34, 1946), and the amounts of silver not bound by halogen and the silver sulphide formed on the surface of grains during after-ripening of the photographic emulsion (WAGGAT AND LITKE). In both instances, formation of silver sulphide takes place from the beginning of the heating, and continues with slowly diminishing rate until a limit determined by the labile sulphur content of the gelatin is reached. Non-halogen silver increases, reaches a plateau in which the amount remains approximately constant for a time, then abruptly increases to a maximum. The abrupt increase represents the formation of metallic silver centres by the autocatalytic decomposition of adsorption (or complex) compounds formed between silver ions and certain components of the gelatin. The plateau represents an induction period, and its length gives a quantity expression of the formation of thermostable silver-gelatin complexes and the content of impurities (silver sulphide and silver) formed inside the grains during the first ripening. Parallel observations on the change of photographic properties of the emulsion indicate that silver sulphide plays a secondary role in determining these properties. The growth to a maximum and subsequent diminution of sensitivity occurs during

(over)

1948

the induction period of the formation of silver, which is assumed to be the most important factor in chemical sensitizing. Results are given on four emulsions. The data also indicate a relation between fog and metallic silver formation, the inflection points of the silver formation curves corresponding to those of the fog-formation curves. An energetic reducing agent, hydrazine, present during the first ripening of the emulsion (recrystallization in the presence of ammonia) produces a decrease in photosensitivity whereas a compound containing labile sulphur produces an increase. The authors suggest that imperfections within the crystal trap the electrons in a metastable state and prevent their recombination with halogen during the initial stage of photolysis, and that silver sulphide forms such imperfections. Metallic silver plays a substantial part in trapping electrons on the surface of the grain. Metallic silver inside the grains causes desensitization. In order to increase the probability of photoelectrons hitting the sites of low accumulation of silver atoms on the surface, it seems important to bring them in contact with the "films" of silver sulphide which cover a considerable portion of the surface of the grains.

*Chem. Abstr.*

CHIBISOV, K. V. and TITOV, A. A.

"Finishing Silver and the Formation of Fog" K. V. CHIBISOV and A. A. TITOV, Trans Kino-Foto Scientific Research Institute Ussr, No 8, 95-104, 1947  
(Printed in 1948) (T-2178)

CHIBISOV and Titov have published extensively for years on topics in this field. They over-emphasize the importance of finishing silver as a component of chemical sensitizing and underestimate the importance of sulfur sensitizing in this and other publications, but the work reported here appears to be quite thorough and reliable.

CHIBISOV, K. V., A. A. TITOV, and A. A. MIKHAILOVA

"Effect of the Topography of Sensitivity Centers upon the Photographic Properties of and Emulsion (Communicatio 101), K. V. CHIBISOV, A. A. TITOV, and A. A. MIKHAILOVA, trans Kino-Foto Scientific Research Institute USSR, No 8, 105-114, 1947 (Printed in 1948). (T-2195)

These are experienced workers, but their results must be regarded with caution since it has not been demonstrated in our laboratories that their analytical methods are accurate.

CHIBISOV, K. V. and TITOV

"New Data on the Nature of Photographic Sensitivity (Communication 101),  
K. V. CHIBISOV, and A. A. TITOV, Trans Kino-foto Scientific Research Institute USSR,  
No 8, 115-125, 1947 (Printed in 1948) (T-2194)

These are experienced workers but their results must be regarded with caution  
since it has not been demonstrated in our laboratories that their analytical methods are  
accurate.

123

34

1ST AND 2ND CODES

PROCESSES AND PROPERTIES INDEX

3RD AND 4TH CODES

COMMON ELEMENTS

COMMON VARIANTS INDEX

1934. New Data on the Nature of Sensitivity of Photographic Emulsions. (In Russian.) K. B. Chiblaov, A. A. Titov, and A. A. Mikhailova. *Journal of Physical Chemistry (U.S.S.R.)*, v. 21, June 1947, p. 645-652. The interaction between silver ions and gelatin in a homogeneous solution and in a photographic emulsion was investigated. Results are discussed in terms of reaction mechanisms.

ASB-3LA METALLURGICAL LITERATURE CLASSIFICATION

1ST AND 2ND CODES

3RD AND 4TH CODES

5TH AND 6TH CODES

7TH AND 8TH CODES

9TH AND 10TH CODES

11TH AND 12TH CODES

13TH AND 14TH CODES

15TH AND 16TH CODES

17TH AND 18TH CODES

19TH AND 20TH CODES

21ST AND 22ND CODES

23RD AND 24TH CODES

25TH AND 26TH CODES

27TH AND 28TH CODES

29TH AND 30TH CODES

31ST AND 32ND CODES

33RD AND 34TH CODES

35TH AND 36TH CODES

37TH AND 38TH CODES

39TH AND 40TH CODES

41ST AND 42ND CODES

43RD AND 44TH CODES

45TH AND 46TH CODES

47TH AND 48TH CODES

49TH AND 50TH CODES

51ST AND 52ND CODES

53RD AND 54TH CODES

55TH AND 56TH CODES

57TH AND 58TH CODES

59TH AND 60TH CODES

61ST AND 62ND CODES

63RD AND 64TH CODES

65TH AND 66TH CODES

67TH AND 68TH CODES

69TH AND 70TH CODES

71ST AND 72ND CODES

73RD AND 74TH CODES

75TH AND 76TH CODES

77TH AND 78TH CODES

79TH AND 80TH CODES

81ST AND 82ND CODES

83RD AND 84TH CODES

85TH AND 86TH CODES

87TH AND 88TH CODES

89TH AND 90TH CODES

91ST AND 92ND CODES

93RD AND 94TH CODES

95TH AND 96TH CODES

97TH AND 98TH CODES

99TH AND 100TH CODES



CHIBISOV, K.V.; TITOV, A.A.

Present status of the problem of photographic sensitivity. Trudy  
NIKFI no.8:5-19 '48. (MIRA 11:5)

(Photographic sensitometry)

CHIBISOV, K. V.

Chibisov, K. V. - "Methods of microchemical analysis of the solid phase of a photographic emulsion," Report 97, Trudy NIKFI (Nauch.-issled. Kino-foto-in-t), Issue 8, 1948, p. 54-74 --- Bibliog: p. 74

So: U-3566, 15 March 53, (Letopis 'Zhurnal 'nykh Statey, No. 13, 1949)

CHIBISOV, K. V.

Chibisov, K. V. - "Topochemical changes during the ripening of photographic emulsions," report 98, Trudy NIKFI (Nauch.-issled. kino-foto-in-t), Issue 8, 1948, p. 75-94 --- Bibliog: p. 94

So: U-3566, 15 March 53, (Letopis 'Zhurnal 'nykh Statey, No. 13, 1949)

~~CHIBISOV, K.Y.~~; TITOV, A.A. . .

Silver of the ripening and the forming of fog. Trudy NIKFI no.8:95-  
104 '48. (MIRA 11:5)

(Photographic emulsions)

CHIBISOV, K.V.; TITOV, A.A.; MIKHAYLOVA, A.A.

~~Influence of the topography of centers of sensitivity on the photo-~~  
~~graphic properties of an emulsion. Trudy NIKFI no.8:105-114 '48.~~  
(Photographic emulsions) (MIRA 11:5)

CHIBISOV, K.V.; TITOV, A.A.

~~\_\_\_\_\_~~  
New data on the nature of photographic sensitivity. Trudy NIKFI no.8:  
115-125 '48. (MIRA 11:5)

(Photographic sensitometry)

P. A.

*Preparation of Light-sensitive  
Materials & Exposure*

77.021.116 : 771.513  
27  
Digestion of Photographic Emulsions (I). Influence of Gelatin, Temperature and pAg. K. V. CHUMOV, A. A. TITOV, and A. A. MIKHAILOVA. *Zh. fiz. Khimii*, 1949, 23, 1387-1398; *Sov. J.P.*, 1950, 21, 371-3.—The fact that gelatin type, pAg and temperature influence the time required to digest an emulsion to maximum speed, but have a relatively minor effect on the value of the maximum, is recognised. It is considered that the important feature of the digestion process is the production of silver by an autocatalytic reaction and that formation of silver sulphide is incidental. A high bromide ion concentration is thought to slow digestion by increasing the potential of the double layer of the grains and so inhibiting adsorption of reactive substances. An activation energy previously deduced for the digestion process is found to be generally applicable.  
H.W.W.

1952

CA

*Kinetics of ripening and finishing of photographic emulsions and the chemical nature of light-sensitive centers. K. V. Chibrikov, A. A. Tkov, and A. A. Mikhailova. Doklady Akad. Nauk S.S.S.R. 70, 483-6 (1950).—Ripening of photographic emulsions which were prepd. from cryst.  $\text{Ag}(\text{NH}_4)_2\text{NO}_3$  was studied by using the following types of gelatin: A did not produce any  $\text{Ag}_2\text{S}$  under the ripening conditions employed, B produced less than  $10^{-4}$  moles  $\text{Ag}_2\text{S}$  per mole  $\text{Ag}$  halide, and C produced  $\text{Ag}_2\text{S}$  in a considerable quantity. When the logarithm of the rate of the formation of metallic  $\text{Ag}$  during the ripening process was plotted as a function of the reciprocal of the abs. ripening temp., straight lines were obtained which were parallel for the 3 types of gelatin. The analogous curve for the rate of formation of  $\text{Ag}_2\text{S}$  (for gelatin C only) was not a straight line. Plots of the logarithm of the rate of attainment of max. sensitivity and of the rate of fog formation as a function of the reciprocal ripening temp. again gave straight lines. Only for gelatin A were they parallel to the lines obtained for the formation of metallic  $\text{Ag}$ , whereas with gelatin B and C, which give off  $\text{S}$  to the halide, straight lines of greater slope resulted. Conclusion: The sensitivity spectra formed with any of the 3 types of gelatin consist of metallic  $\text{Ag}$ , and  $\text{Ag}_2\text{S}$  influences the ripening speed only. M. Biltz*



*Sensitive Materials, supports  
and Gelatin Emulsion*

771.513 : 771.534.1

1281

The Role of Gelatin in the Formation of Centres of Photo-Sensitivity. K. V. CHIRIKOV, A. A. TITOV and A. A. MIKHAILOVA. Doklady Akad. Nauk S.S.S.R., 1950, 70, 659-661.

—The rate of formation and number of centres of photosensitivity vary with the different gelatins examined. Two types of behaviour are recognized : (1) There is a "ceiling" of photosensitivity that is reached over a wide range of silver ion concentrations, though at different times ; (2) the maximum photosensitivity that can be attained is quite different for different silver ion concentrations. Over the temperature range 45-60° the same maximum photosensitivity is reached, though at different times. The log of the time to reach maximum photosensitivity is an inverse function of the absolute temperature, as predicted by the ARRHENIUS equation. The probability of formation of a greater number of inner centres of photosensitivity would lead to the formation of a greater number of centres at the surface of the micro-crystals by the termination of the first ripening. This would affect the rate of the second ripening, when this stage takes place at a spot of earlier formation of centres. Therefore the greater the "contamination" introduced by the gelatin into the solid phase of the emulsion during the first ripening, the shorter the time for reaching the maximum photosensitivity at the second ripening. This conclusion is confirmed by experiments.

*Chem. Abs.*

CHIBISOV, K. V.; TITOV, A. A.; MIKHAYLOVA, A. A.

Photochemistry

Nature of the centers of photo-sensitivity and the part played by gelatin in their formation. Usp. nauch. fot., No. 1, 1951.

9. Monthly List of Russian Accessions, Library of Congress, June <sup>1952</sup> ~~1953~~ Uncl.

USSR.

The effect of sulfur compounds on the kinetics of the chemical ripening of photographic emulsions. K. V. Chibrikov, A. A. Titov, and A. A. Mikhailova. *Doklady Akad. Nauk S.S.S.R.* 78, 319-22 (1951); *cf. C.A.* 44, 2877b, 8803c; 45, 1443g. —To det. the effect of S compds. on the secondary aging of emulsions, the influence of thiosinamine and  $\text{Na}_2\text{S}_2\text{O}_3$  on the sensitizing action was studied. The results indicate that in the aging process no  $\text{Ag}_2\text{S}$  is formed in the emulsion. The S compds. formed on the surface of the  $\text{AgBr}$  under the influence of the S-bearing components of the gelatin have no sensitizing effect. These compds. only increase the rate of chem. aging in so much as they increase the rate of the reduction process—the autocatalytic process of formation of Ag centers of photosensitivity. I. Rovtar Leach

CHIBISOV, K. V.

**Kinetics of chemical ripening of photographic emulsions and the role of sulfur compounds.** K. V. Chibisov, A. A. Titov, and A. A. Mikhailova. *Doklady Akad. Nauk S.S.S.R.* 84, 647-50 (1952); *U. S. A.* 45, 1443g. It is assumed that the 2nd ripening process is a reduction process which can be accelerated by S compounds, but the S compounds do not influence the max. light sensitivity of the emulsion. This is in contrast to Sheppard's theory about Ag<sub>2</sub>S specks as centers of light sensitivity. When N<sub>2</sub>H<sub>4</sub> (0.003 g. N<sub>2</sub>H<sub>4</sub>.H<sub>2</sub>SO<sub>4</sub> to 1 g. AgBr) was added at the beginning of the 2nd ripening, the results obtained were similar to those obtained when S compounds, such as Na<sub>2</sub>S<sub>2</sub>O<sub>3</sub> or Na<sub>2</sub>S were added. Chem. ripening was accelerated by N<sub>2</sub>H<sub>4</sub>, but color sensitivity was not affected. With both N<sub>2</sub>H<sub>4</sub> and S compounds, the formation of adsorption compounds on the emulsion microcrystals leads to acceleration of the reduction process. The polar N<sub>2</sub>H<sub>4</sub> mol. is adsorbed; and this loosens the Ag bonds. The N<sub>2</sub>H<sub>4</sub> reduces AgBr on the surface of the microcrystals, and these Ag specks are the centers of light sensitivity. The N<sub>2</sub>H<sub>4</sub> and the S compounds caused different effects of acceleration with different gelatins, but the degree of acceleration was parallel. E. M.

Chemical Abst.  
Vol. 48 No. 9  
May, 19, 1954  
Photography

*Handwritten signature and date: 8/30/54*

*Handwritten:* 11/27/80, H.V.

*Handwritten:* 11/27/80, H.V.

The Nature of the Centres of Light Sensitivity of Photoreceptors  
by *Laptev, Khim.* 1958, 22, 12, 1500-1504, 1505  
which supports the concept of the amorphous nature of the  
centres of sensitivity rises with increase in size of the receptor  
centres, raises the tendency for transformation of the

6

Mechanism of ripening of photographic emulsions. II. Relation between the processes of change of light-sensitivity, growth of fog, and formation of silver during ripening. A. A. Mikhailova, I. M. Ratner, A. A. Titov, and K. V. Chubrikova (All-Union Eng-Photo Inst., Moscow). *Zhur. Fiz. Khim.* 27, 880-77 (1953); cf. *C.A.* 44, 2877b, 46, 6018e. — The light-sensitivity ( $S$ ) and fog d. ( $D$ ) were measured of several photographic emulsions, each at various stages of secondary ripening; the amt. of metallic Ag ( $a$ ) in each sample was detd. by fixation of the unexposed emulsion at 10° followed by soln. of the residual Ag in  $HNO_3$  and potentiometric titration. Data on  $S$ ,  $D$ , and  $a$  are presented graphically for emulsions of AgBr (I), ripened with and without  $NH_3$ , I with 3, 5, and 7.5 mole % AgI, ripened with  $NH_3$ , and I with 1 and  $3 \times 10^{-2}$  g. thiosinamine/g. of gelatin, ripened with  $NH_3$ . Other graphs show the effects of variation of bromide concn., temp. of secondary ripening, and the amt. of pre-exposure (from 0 to  $2.4 \times 10^4$  lux-sec. during first ripening). The temp. dependence ( $c$ ) of the rate of growth of  $S$  and  $D$ , expressed as the gradient of the linear curve of  $R \ln t$  plotted as a function of  $1/\theta$ , where  $t$  is the time required for  $S$ ,  $D$ , or  $a$  to reach a given value and  $\theta$  is the abs. temp., is the same for  $S$  and  $D$  in any given emulsion; the  $c$  of  $a$  may be the same or different. On the basis of exptl. data the following law is proposed: the max. sensitivity always coincides with the beginning of sharp increase of fog and with the end of the induction period for the formation of free Ag.

J. W. Loweberg, Jr.

BB 32

CHIBISOV, K.V.

U S S R

388

77.021.11

Formation of Internal Centres as a Result of the Finishing Process in Photographic Emulsions. K. V. CHIBISOV and I. M. RATNER. *Doklady Akad. Nauk. S.S.S.R.* 1953, 89, 329-332. — The influence of hydrazine and sodium thiosulphate on the ripening process is studied. The maximum sensitivity and the fog density are taken as criteria. Maximum sensitivity decreases with increasing concentration of hydrazine sulphate and increases with increasing concentration of sodium thiosulphate up to a certain point. This dependence and the dependence on sulphide concentration are shown in graphs. *Chem. Abs.*

CHIBISOV, K. V.

USSR

6

77.01 : 77.021.11

Dependence of the Photographic Properties of Emulsions on the Conditions of the Recrystallisation. K. V. CHIBISOV and I. M. RATNER. *Dokl. Akad. Nauk SSSR*, 1953, 90, 71-74.—Study of the kinetics of the secondary aging and of the grain-size distribution in silver bromide emulsions leads to the conclusion that the maximum light sensitivity of the emulsions depends not only on the dimensions of the microcrystals but also on the rate of recrystallisation and the rate of chemical aging with formation of inner light-sensitive centres

*J. Appl. Chem.*

62  
1



JAMES, T.; MARKHILEVICH, K.I.[translator]; KHEYNMAN, A.S.[translator];  
CHIBISOV, K.V., redaktor.

[Fundamentals of photographic theory] Osnovy teorii fotograficheskogo protsesssa. Perevod s angliiskogo K.I.Markhilevicha i A.S.Kheimana. Pod red. K.V.Chibisova. Moskva, Izd-vo inostrannoi lit-ry, 1954. 280 p. (MIRA 7:8)  
(Photography)

~~CHIBISOV, R.V.~~, redaktor; KHEYNMAN, A.S. [translator]; TSUKERMAN, A.M.,  
redaktor; SHAPOVALOV, V.I., tekhnicheskiy redaktor.

[The physical chemistry of photographic processes] Fizicheskaya khimiya  
fotograficheskikh protsessov; sbornik statei. Perevod s angliiskogo  
A.S.Kheymana. Moskva, Izd-vo inostrannoi lit-ry, 1954. 488 p.  
[Microfilm] (MIRA 8:1)

1. Chlen-korrespondent Akademii Nauk SSSR (for Chibisov).  
(Photographic chemistry)

USSR/Chemistry - Chemical Calculations

FD 206

Card 1/1

Author : Chibisov, K. V., Professor, Doctor of Chemical Sciences, Corresponding Member, Academy of Sciences USSR; Tikhonov, N. S., Docent, Candidate of Technical Sciences (reviewers)

Title : Book Reviews and Bibliography: Review of "Formulation of chemical equations" (Sostavleniye khimicheskikh uravneniy) by A. A. Kudryavtsev

Periodical : Khim. prom. 4, 62-63 (254-255), June 1954

Abstract : Textbook to be used at chemical and chemicotechnological higher educational institutions and chemical departments of higher educational institutions. The reviewers point out several shortcomings of the book, but on the whole recommend it as a good textbook and manual. Published by Sovetskaya Nauka, Moscow, 1953, 203 pp.

CHIBISOV, K. V.

USSR/ Miscellaneous - Photography

Card 1/1 ;Pub. 124 - 11/38

Authors ;Chibisov, K. V., Memb. Corresp. of Acad. of Sc. USSR

Title ;About the facilities of scientific photography and cinematography

Periodical ;Vest. AN SSSR 8, 74-76, Aug 1954

Abstract ;The importance of photos and motion picture films as a means of scientific-research work for the development of Soviet science, is explained. The various faculties which, by order of the Ministry of Education USSR, have adopted photography as a means of research work are listed.

Institution : .....

Submitted : .....